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EXAMINER	
VAN DOREN, BETH	
ART UNIT	**PAPER NUMBER**
3623	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,439	PATEL ET AL.	
	Examiner	Art Unit	
	Beth Van Doren	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-89* is/are pending in the application.

4a) Of the above claim(s) *19,27-30,49,51,61-71,80-87 and 89* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,20-26,31-48,50,52-60,72-79 and 88* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060105*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a non-final office action in response to communications received 07/27/06. Applicant has elected Group I, Species I, with traverse. Claims 1-18, 20-26, 31-48, 50, 52-60, 72-79, and 88 are pending in this application.

Election/Restrictions

2. Applicant's election without traverse of Group I in the reply filed on 07/27/2006 is acknowledged.

3. Applicant's election with traverse of Species II in the reply filed on July 27, 2006 is acknowledged. The traversal is on the grounds that the species identified are related and argues that there are no grounds for asserting that the species are patentably distinct. This is not found persuasive because pages 18-23 present alternative recommendation approaches (which are set forth in the species of the restriction requirement), which are independent and distinct.

The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

4. Applicant's amendment to the specification are sufficient to overcome the specification objections set forth in the office action of 07/12/2005.

5. Applicant's amendments to the claims are sufficient to overcome the claim objections , the 35 USC § 112, second paragraph rejections, and the 35 USC § 101 rejections set forth in the office action of 07/12/2005.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 7-11, 13-14, 16, 20-23, 31-32, 34, 36-38, 40-48, 50, 52-56, 59-60, 72-79, and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Chislenko et al. (U.S. 6,041,311).

As per claim 1, Chislenko et al. teaches a statistical method for recommending items to users in one or more groups of users comprising:

maintaining user-related data, in a computer-accessible format, including storing data based on a history of ratings of items by users in the one or more groups of users (See column 2, lines 11-30, column 3, lines 38-55, column 4, lines 1-15, and column 5, lines 30-45, wherein profiles including history of ratings are maintained and accessed by the system);

on a computer, computing parameters associated with the one or more groups using the user-related data, including for each of the one or more groups of users computing parameters characterizing predicted ratings of items by users in the group (See figure 1 (step 102), column 2, lines 20-30, column 5, lines 29-45 and line 65-column 6, line 15 and lines 57-67, column 8, lines 1-7, column 9, lines 1-11, wherein parameters, such as clustering and similarity factors, are computed for a group and used to predict ratings);

on a computer, computing personalized statistical parameters for each of one or more individual users using the parameters associated with said user's group of users and the stored data based on the history of ratings of items by that user (See figures 1-2, column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein personalized parameters (weights) are generated for each user showing the similarity with a specific user in the group); and

calculating parameters characterizing predicted ratings of the items by each of one or more users using the personalized statistical parameters for that user (See column 2, lines 5-10 and 20-30, column 5, lines 20-30 and line 65-column 6, line 5, column 9, lines 39-47 and 62-67, column 10, lines 10-35, and column 16, lines 55-65, which disclose predicting ratings based on parameters associated with the group and the user).

As per claims 2 and 3, Chislenko et al. teaches wherein the one or more groups of users include cohorts and wherein the cohorts include demographic cohorts (See figures 1-2, column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein there are associations between users within groups, these associations based on additional information such as name, age or address. See also column 3, lines 38-45, column 7, lines 40-50, column 8, lines 43-55, and column 9, lines 39-47 and 62-67).

As per claim 4, Chislenko et al. teaches wherein the demographic cohorts are defined in terms of one or more of age, gender, and zip code (See column 3, lines 38-45, wherein the additional information used includes at least address and age).

As per claim 5, Chislenko et al. discloses wherein the cohorts are specified by user characteristics including preferences to types of films (See column 3, lines 5-35, which discloses the ratable items of movies (i.e. films) and tastes concerning these movies).

As per claim 7, Chislenko et al. discloses wherein the cohorts include latent cohorts (See figures 1-2, column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein there are associations between users within groups. See also column 3, lines 50-45, column 4, lines 40-55, column 10, lines 5-27, wherein associations are based on inferred ratings and ratings calculated from other ratings).

Claim 8 recites equivalent limitations to claim 3 and is therefore rejected using the same art and rationale as set forth above.

As per claim 9, Chislenko et al. discloses wherein the cohorts are further specified in terms of item preferences (See column 3, lines 15-35 and 38-55, column 4, lines 1-15, and column 5, lines 30-45, wherein preferences and tastes are stored).

As per claim 10, Chislenko et al. teaches wherein assignment of users to the latent cohorts are probabilistic (See column 5, lines 7-30, column 9, lines 9-25, wherein the relationships between users are probabilistic).

As per claim 11, Chislenko et al. teaches wherein at least some users are assigned to multiple cohorts (See column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein there are associations between users within groups. See specifically column 3, lines 15-35, wherein users can be assigned to multiple domains and profiles).

As per claim 13, Chislenko et al. teaches wherein the items include movies (See column 3, lines 5-35, which discloses the ratable items of movies).

As per claim 14, Chislenko et al. teaches wherein the items include music (See column 3, lines 5-15, column 10, lines 15-47, wherein the items are music/sound recordings).

As per claim 16, Chislenko et al. teaches wherein calculation of the parameters characterizing the predicted ratings includes calculation of an expected rating (See column 5, lines 20-30 and line 65-column 6, line 5, column 9, lines 39-47 and 62-67, column 10, lines 10-35, and column 16, lines 55-65, wherein the predicted rating is the expected rating (i.e. how the user would rate the item)).

As per claim 20, Chislenko et al. wherein calculation of the parameters characterizing predicted ratings of items by users includes computing statistical parameters from the history of ratings (See column 5, lines 29-45 and line 65-column 6, line 15 and lines 57-67, column 8, lines 1-7, column 9, lines 1-11).

As per claim 21, Chislenko et al. teaches wherein calculation of the parameters characterizing predicted ratings of items by users further includes computing statistical parameters associated with each of a plurality of variables from the history of ratings (See column 6, line 23-column 7, line 40, which discloses different ways to associate two users, and these associations allowing predicted ratings to be computed and recommendations offered to the user. See column 9, lines 39-47 and 60-67, and column 10, lines 10-35, which disclose correlations used for recommendations).

As per claims 22 and 23, Chislenko et al. teaches wherein computing the statistical parameters includes computing estimated values and accuracies of estimated values of at least some of the variables (See column 6, line 23-column 7, line 40, column 9, lines 39-47 and 60-67, and column 10, lines 10-35, which discloses statistical parameters and computing variance and standard deviation, which shows the estimated variation in the values).

As per claim 31, Chislenko et al. teaches accepting additional ratings for one or more items by one or more users; and updating the personalized statistics parameters for said user using the additional ratings (See column 5, lines 39-65, column 8, lines 55-65, wherein additional ratings are received and the neighboring set and weights are updated).

As per claim 32, Chislenko et al. teaches wherein accepting the additional ratings of items by one or more users includes accepting ratings for items not previously rated by said users

(See column 5, lines 5-25 and 39-65, column 8, lines 55-65, wherein the system is capable of receiving new ratings from the user).

As per claim 34, Chislenko et al. teaches eliciting the additional ratings by identifying the one or more items to the user (See column 4, lines 1-30, wherein the user is questioned).

As per claim 36, Chislenko et al. teaches recomputing the parameters associated with the one or more cohorts using the additional ratings (See column 5, lines 6-25 and 39-65, column 8, lines 55-65, wherein the weightings are recomputed).

As per claim 37, Chislenko et al. teaches recomputing the personalized statistical parameters for each of the one or more users using the recomputed parameters associated with said user's cohort (See column 5, lines 6-25 and 39-65, column 8, lines 55-65, wherein the weightings are recomputed).

As per claim 38, Chislenko et al. teaches wherein computing the parameters associated with the group of users is regularly repeated (See column 5, lines 5-25 and 39-65, column 8, lines 55-65, wherein the computation of the parameters of the group are recomputed when additional information is gained about the users).

As per claim 40, Chislenko et al. teaches discloses wherein computing the personalized parameters is regularly repeated (See column 5, lines 5-25 and 39-65, column 8, lines 55-65, wherein as updated information is received the information concerning the weights between users is updated).

As per claim 41, Chislenko et al. teaches discloses wherein computing the personalized parameters is repeated more frequently than computing the parameters associated with the

groups of users (See column 5, lines 5-25 and 39-65, column 8, lines 55-65, wherein the associations and weights between two users is updated every time a change occurs).

As per claim 42, Chislenko et al. wherein computing the personalized parameters includes computing said parameters in response to receiving one or more actual ratings of items from a user (See figures 1-2, column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein personalized parameters (weights) are generated for each user showing the similarity with a specific user in the group. See column 4, lines 1-20, wherein initial ratings are generated from direct solicitation, whereas later actual ratings are acquired).

As per claim 43, Chislenko et al. discloses wherein maintaining the user-related data further includes storing user preferences (See column 3, lines 15-35 and 38-55, column 4, lines 1-15, and column 5, lines 5-15 and 30-45, wherein preferences and tastes are stored through the ratings and patterns of the user).

As per claim 44, Chislenko et al. teaches wherein storing user preferences includes storing user preferences associated with attributes of the items (See column 3, lines 15-35, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, wherein attributes, such as genre, are considered for an item).

As per claim 45, Chislenko et al. teaches teaches accepting user preferences for features of the items (See column 3, lines 15-35, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, column 12, lines 55-67, wherein features (or attributes), such as producer, are considered for an item).

As per claim 46, Chislenko et al. teaches wherein accepting said preferences includes eliciting said preferences from the user (See column 3, lines 15-35, column 5, lines 5-15, column

6, lines 15-45 and line 65-column 11, line 10, column 12, lines 55-67, wherein features (or attributes), such as producer, are considered for an item. See column 4, lines 1-20, wherein ratings are elicited).

As per claim 47, Chislenko et al. discloses wherein eliciting the preferences includes accepting answers to a set of questions, each associated with one or more features (See column 3, lines 15-35, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, column 12, lines 55-67, wherein features (or attributes), such as producer, are considered for an item. See column 4, lines 1-20, wherein ratings are elicited).

As per claim 48, Chislenko et al. discloses wherein computing the personalized statistical parameters includes using the users preferences (See figures 1-2, column 2, lines 20-30, column 9, lines 9-41, column 11, lines 1-11, wherein personalized parameters (weights) are generated for each user showing the similarity with a specific user in the group. See column 3, lines 15-35 and 38-55, column 4, lines 1-15, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, wherein tastes and preferences are associated with the weights).

As per claim 50, Chislenko et al. discloses wherein computing parameters associated with the one or more groups of users includes using the user preferences (See figure 1 (step 102), column 2, lines 20-30, column 5, lines 29-45 and line 65-column 6, line 15 and lines 57-67, column 8, lines 1-7, column 9, lines 1-11, wherein parameters, such as clustering and similarity factors, are computed for a group and used to predict ratings. See column 3, lines 15-35 and 38-55, column 4, lines 1-15, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, wherein tastes and preferences are associated in these groupings).

As per claim 52, Chislenko et al. discloses teaches requesting ratings from a user for each of a set of selected items, and wherein storing the history of ratings includes storing in the history, ratings received from the user in response to the requests (See column 4, lines 1-20, wherein a user is asked for ratings for a set of items and these responses are stored in the user profile).

As per claim 53, Chislenko et al. discloses selecting the set of items to requests ratings of based on features of the items (See column 4, lines 1-25, wherein a set of items are presented, wherein the set corresponds to a specific group of items (groups are genres of items)).

As per claim 54, Chislenko et al. discloses selecting the set of items includes using the computed parameters associated with the one or more groups of users (See column 4, lines 1-25, wherein a set of items are presented, wherein the set corresponds to a specific group of items (groups are genres of items), the rating used to identify one or more groups. See column 3, lines 5-35, which discloses domains of items. See column 11, lines 35-60, and column 12, lines 25-40, wherein items are targeted based on previous ratings of members of groups).

As per claim 55, Chislenko et al. discloses wherein selecting the set of items includes selecting said items to increase an expected value of an information related to personalized statistical parameters for the user, wherein the expected value of the information comprises a measure of an increase in knowledge of the about the user's preferences (See column 4, lines 1-20, wherein a user is asked for ratings, the ratings are used to build a profile so that the system can better predict expected ratings for the user in the future).

As per claim 56, Chislenko et al. discloses wherein computing a personalized recommendation for a user using the parameters characterizing predicted ratings of items for said

users (See column 2, lines 5-10 and 20-30, column 5, lines 20-30 and line 65-column 6, line 5, column 9, lines 39-47 and 62-67, column 10, lines 10-35, and column 16, lines 55-65, which disclose predicting ratings based on parameters associated with the group and the user).

As per claim 59, Chislenko et al. teaches wherein computing a score for each of multiple of the items for a first user, including computing predicted ratings for each of said items using the personalized statistical parameters for said user, and recommending a subset of the multiple items using the computed scores (See column 9, line 50-column 10, line 15, wherein a number of items with the highest predicted ratings are selected to be recommended to the user).

As per claim 60, Chislenko et al. discloses wherein computing a score for each of multiple of the items for a set of the users, including computing predicted ratings for each of said items using the personalized statistical parameters for each of the users in said set; and recommending a subset of the multiple items using the computed scores (See column 9, line 50-column 10, line 15, wherein a number of items with the highest predicted ratings are selected to be recommended to the user).

As per claim 72, Chislenko et al. discloses wherein the personalized statistical parameters further include a quantity that characterizes a distribution of predicted ratings for any of the items by that user and computing the score for each of the multiple items includes combining the predicted rating for the item and said quantity (See column 12, lines 64-67, column 13, lines 1-30 and 50-60, column 14, lines 24-35 and 55-65, column 15, lines 34-45).

As per claim 73, Chislenko et al. discloses wherein the quantity that characterizes the distribution characterizes an uncertainty in the predicted rating (See column 12, lines 64-67,

column 13, lines 1-30 and 50-60, column 14, lines 24-35 and 55-65, column 15, lines 34-45, wherein the distribution includes variance).

As per claim 74, Chislenko et al. discloses wherein combining the predicted rating and the quantity that characterizes the distribution includes weighting their contribution according to a weight (See column 12, lines 64-67, column 13, lines 1-30 and 50-60, column 14, lines 24-35 and 55-65, column 15, lines 34-45).

As per claim 75, Chislenko et al. discloses wherein the method further comprises modifying the weight according to a history of recommendations for the user (See column 12, lines 64-67, column 13, lines 1-30 and 50-60, column 14, lines 24-35 and 55-65, column 15, lines 34-45).

As per claim 76, Chislenko et al. wherein modifying the weight results preferring items for which the predicted ratings have relatively lower certainty (See column 5, lines 20-30, column 9, lines 10-35, column 12, lines 64-67, column 14, lines 24-35 and 55-65, column 15, lines 34-45, wherein weights are modified to reflect certainties, with items with lower connection having lower certainties).

As per claim 77, Chislenko et al. discloses wherein one or more of the multiple items is associated with an external preference, and computing the score for each of the multiple items includes combining the predicted rating for the item and said external preference (See column 3, lines 15-35 and 38-55, column 4, lines 1-15, column 5, lines 5-15, column 6, lines 15-45 and line 65-column 11, line 10, wherein tastes and preferences are associated with users and are included in predicting the rating of an item).

As per claim 78, Chislenko et al. computing parameters enabling computing of a predicted rating of an item by a user using actual ratings of said item by different users (See column 2, lines 11-30, column 3, lines 38-55, column 4, lines 1-15, and column 5, lines 30-45, wherein actual ratings are stored from different users. See column 2, lines 5-10 and 20-30, column 5, lines 20-30 and line 65-column 6, line 5, column 9, lines 39-47 and 62-67, column 10, lines 10-35, and column 16, lines 55-65, wherein these stored values are used to compute a predicted rating).

As per claim 79, Chislenko et al. discloses wherein the different users are in the same group as the user for whom the predicted rating is computed (See figure 1 (step 102), column 2, lines 20-30, column 5, lines 29-45 and line 65-column 6, line 15 and lines 57-67, column 8, lines 1-7, column 9, lines 1-11, wherein multiple members are in a group).

Claim 88 recites equivalent limitations to claim 1 and is therefore rejected using the same art and rationale set forth above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 6, 12, 15, 17-18, 24-26, 33, 35, 39, and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chislenko et al. (U.S. 6,041,311).

As per claim 6, Chislenko et al. discloses wherein the cohorts are specified by user characteristics including preferences to types of films (See column 3, lines 5-35, which discloses

the ratable items of movies (i.e. films) and tastes concerning these movies). However, Chislenko et al. does not expressly disclose that the types of films include one or more of independent films and science fiction films.

Chislenko et al. discloses a system that recommends items to a user, the items being ratable and including novels, movies, WWW pages, sound recordings, etc. Chislenko et al. further discloses genres of music that users prefer as well as movie tastes of users (for types). Examiner takes official notice that independent films and science fiction films are two well known genres or types of movies for which a user would have a taste. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include independent films and science fiction films in the movies for which a user would have a taste in order to more efficiently match the user with preferred items by considering specific attributes of the items (like movie type), thus recommending items that have a higher probability of being liked by the user.

As per claims 12 and 15, Chislenko et al. discloses users rating items (See column 2, lines 11-30, column 3, lines 38-55, column 4, lines 1-15, and column 5, lines 30-45, wherein profiles including history of ratings are maintained and accessed by the system). Chislenko et al. further teaches a system that includes items that are any category or subcategory of ratable items, such as sound recordings, movies, restaurants, vacation destinations, novels, WWW pages, etc. (See column 3, lines 5-15). However, Chislenko et al. does not expressly disclose that the item is a television show or a gift.

Chislenko et al. discloses a system that recommends items to a user, the items including items that are any category or subcategory of ratable items, such as sound recordings, movies,

restaurants, vacation destinations, novels, WWW pages, etc. Examiner takes official notice that it is old and well known to rate both TV shows and gifts, and further that it is old and well known to give novels, movies, sound recordings, etc. as gifts. Examiner further points out that the type of item has no functional impact on the recitation of claim 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include television shows and gifts in the ratable items of Chislenko et al. in order to more efficiently match the user with preferred items by considering a broad spectrum of ratable items, thus recommending items that have a higher probability of being liked by the user.

As per claims 17, 18, and 26, Chislenko et al. discloses wherein calculation of the parameters characterizing the predicted ratings and determining a number representing a percentage that the associated rating is correct or incorrect (See column 5, lines 20-30 and line 65-column 6, line 5, column 9, lines 10-25, 39-47, and 62-67, column 10, lines 10-35, and column 16, lines 55-65, wherein the predicted rating is the expected rating (i.e. how the user would rate the item) which has a value representing the probability the prediction is correct).

However, Chislenko et al. does not expressly disclose calculation of parameters associated with risk components of said ratings, calculated risk adjusted rating parameters, or computing the parameters by applying a risk-adjusted blending approach.

Chislenko et al. discloses calculating a number associated with the predicted rating that represents the validity of the rating and the probability that rating is correct or incorrect. Chislenko et al. also discloses calculating an expected deviation in the calculated prediction. Examiner takes official notice that risk considerations and adjustments are used to compensate for the potential of adverse outcomes. Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to include risk adjustment in the validity considerations of Chislenko et al. in order to increase the probability that calculated outcome is correct.

As per claims 24-25, Chislenko et al. discloses a statistical approach and computing statistical parameters associated with each of a plurality of variables from the history of ratings (See column 6, line 23-column 7, line 40, which discloses different ways to associate two users, and these associations allowing predicted ratings to be computed and recommendations offered to the user. See column 9, lines 39-47 and 60-67, and column 10, lines 10-35, which disclose correlations used for recommendations). However, Chislenko et al. does not expressly disclose that computing statistical parameters includes applying a regression approach or specifically applying a linear regression approach.

Chislenko et al. discloses a statistical approach and computing statistical parameters associated with each of a plurality of variables from the history of ratings. Chislenko et al. further discloses calculating correlations between users in the system. Examiner takes official notice that using regression (such as linear regression) is a well known technique used in statistics to efficiently identify correlations betweens data. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use linear regression/regression to compute statistical parameters, like correlations, in order to more efficiently identify indicators and patterns in data sets.

As per claim 33, Chislenko et al. discloses wherein accepting the additional ratings of items by one or more users and accepting information based on items previously rated and updating based on drift from old ratings data (See column 5, lines 39-65, column 8, lines 55-65,

wherein additional ratings are received and the neighboring set and weights are updated. See column 5, lines 5-27, column 11, lines 35-55, and column 12, lines 25-35, wherein additional information is sought based on previously rated items or since preferences and tastes drift with time, updates are considered). However, Chislenko et al. does not expressly disclose that the updates and further information gained is specifically ratings for items previously rated by said users.

Chislenko et al. specifically discloses aging ratings data, where the user's tastes may change with time, updating ratings profiles as more information is gained, and accepting information based on items previously rated. It is old and well known in the surveying arts that a user may try something for a second time, having a different opinion the second time, such as when time passes or interests change. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to accept additional ratings such as ratings for items previously rated by said users in order to more accurately give recommendations to users based on the most updated and timely profile information.

As per claim 35, Chislenko et al. discloses updating the personalized parameters including using the best available information and information from further investigation (inferring) to determine the predicted rating that is expected to be the most accurate (See column 4, lines 1-30 and 40-55, column 5, lines 5-27 and 39-65, column 8, lines 55-65, column 11, lines 35-55, and column 12, lines 25-35). However, Chislenko et al. does not expressly disclose a Bayesian update of the parameters.

Chislenko et al. discloses predicting ratings based on the most updated information and inference of ratings. Examiner takes official notice that Bayesian theory is old and well known

and is used to measure the degree of belief an individual has in an uncertain proposition, such as in the case where multiple outcomes are possible and an additional sampling or study is performed to gain more information that will allow the user to adjust the prior prediction and allow a better prediction of an outcome. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to uses Bayesian theory to update the parameters (by calculating joint and Posterior probabilities) in order to increase the degree of belief an individual has in an uncertain proposition.

As per claim 39, Chislenko et al. teaches wherein computing the parameters associated with the group of users is regularly repeated (See column 5, lines 5-25 and 39-65, column 8, lines 55-65, wherein the computation of the parameters of the group are recomputed when additional information is gained about the users). However, Chislenko et al. does not expressly disclose that the regular computing of the parameters is repeated weekly.

Chislenko et al. discloses that the computation of the parameters of the group are recomputed when additional information is gained about the users. Chislenko et al. discloses that these updates can occur immediately or at a convenient time. Examiner takes official notice that it is well known in computing to perform maintenance and updates on systems in regular intervals, such as daily, weekly, etc. to ensure that the data held in the system is up to date and accurate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform updates/computing on the data at weekly intervals in order to increase the validity of the predicted ratings by ensuring that the most accurate, up to date, and comprehensive data is used to perform the prediction.

As per claims 57 and 58, Chislenko et al. discloses computing personalized recommendations for users based on the user requesting the recommendation or through system generation (See column 9, line 60-column 10, line 15). computing the personalized recommendation). However, while Chislenko et al. specifically discloses that a recommendation is generate for a user, Chislenko et al. does not expressly disclose the timing of the generation or specifically that the recommendation is computed during a user session or off-line prior to a user session.

Chislenko et al. discloses computing personalized recommendations for users based on the user requesting the recommendation or through system generation. Examiner takes official notice that both real-time and off-line processing are both well known in the computing arts, a system developer choosing a processing time based on the needs of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to process the recommendation in real-time during the user session (after asking for the recommendation) in Chislenko et al. or to process the recommendation when the system is offline in order to more efficiently meet the processing needs of the system by designing the system around the processing requirements. See column 5, lines 40-50, which disclose processing at different times.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aggarwal et al. (U.S. 2001/0049623) discloses product and peer filtering for recommendations based on the customer's characterazation.

Dunning et al. (U.S. 2003/0229537) teaches providing recommendations based on user profiles, wherein the profiles show actual preferences without have to have the user fill out a questionnaire.

Chislenko et al. (U.S. 6,092,049) discloses calculating weights and similarity factors to place users in groups and to create predicted ratings for the user.

Kawaski (U.S. 6,539,375) teaches identifying attributes and interest data for a user and then analyzing this data in a matching rating system.

Jacobi et al. (U.S. 7,113,917) discloses recommeding items to users based on the user's item selection history and the degree to which the item is related to this history.

Rosenberg et al. (U.S. 2002/0103692) discloses creating product recommendations based on generated rating scores that adapt the future recommendations.

Stirpe et al. (U.S. 2002/0173971) teaches collaborative filtering and storing profile data which is used to segment customers into groups for personalization.

Grasso et al. (U.S. 2002/0116291) discloses a recommender system that deduces recommendations for users from a group's use of resources.

Bieganski et al. (WO 01/37162) discloses a recommendation server that correlates neighbors based on user profiles and the ratings contained in those profiles.

Net Perceptions, Inc. (www.netperceptions.com) teaches personalizing and targeting services based on user profiles and users with profiles similar to the user.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (571) 272-6737. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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